What Are Fifth-Generation Capabilities?

As many have observed, the term “fifth-generation” is a vague concept without any generally accepted technical meaning; but it has been used so frequently for so long by Lockheed Martin and other F-35 backers that it has taken on a life of its own.

To judge how the F-35 measures up to claims made on its behalf we have tried to give some substance to this vague concept.

One person who ought to know what “fifth-gen” means is Lt. Gen. Herbert J. "Hawk" Carlisle, the USAF Deputy Chief of Staff for Operations, Plans and Requirements. In a recent story by the Air Force news service, he defined “fifth generation fighter jet technology…(as)….a scenario in which an F-22 data-links coordinates to a Navy submarine-launched Tomahawk missile onto a target.”

“The threat environment is continuing to grow, so as we look at how we're going to maintain those competencies in the future, that's where fifth generation fighters come in, "he said. Fifth-generation “aircraft must not only be stealth, but also be highly maneuverable, be able to conduct multiple roles, and these aircraft must also be able to handle sensor and avionics information in a network integrated way not only for the pilot, but for the entire joint force.”

In a similar story, his colleague Lt. Gen. Christopher D. Miller, Deputy Chief of Staff for Strategic Plans and Programs, said “[fifth-generation] technology-- exemplified in the F-22 and F-35 -- assumes greater importance in combating growing anti-access, area-denial capabilities….fifth-generation aircraft [are] relevant [because] operating in anti-access environments continues to become more complex and challenging.”

He added that “Fifth-generation aircraft are a key ability …to operate in those environments [because they] bring maneuverability, survivability, advanced avionics and stealth technology to the fight. Both planes are multi-role capable, able to fight air-to-air and air-to-ground.”

And, in his April 3 report, Canada’s Auditor-General defined “Fifth generation capability [as] fighter jets that, according to manufacturers, incorporate the most modern technologies, such as stealth, advanced radar, and integrated avionics. The phrase “according to manufacturers” clearly implies that this is marketing-speak.

Finally, the Rand Corporation offers a longer, but more cogent, definition. In a recent report, it said “a primary purpose of fifth-generation fighters is to enable successful operations in an anti-access environment featuring an integrated air defense system (IADS) that includes advanced SAM systems, jamming, and other electronic attack modes networked into a cooperative arrangement designed to deny key communication, navigation, and precision attack capabilities to the blue forces.” (see page 33)

-eends-

> Back to the F-35 Reality Check 10 Years On (Part 1) feature